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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/098,730 06/18/98 SUGIYAMA

T PM-254782

EXAMINER

IM52/0511

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ART UNIT

PAPER NUMBER

22

1743

DATE MAILED:

05/11/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trad marks

Supplemental
Office Action Summary

Application No.

09/098,730

Applicant(s)

SUGIYAMA BZAL

Examiner

T. TUNG

Group Art Unit

1743

Paper No. 22

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

^{NEW} A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- ☒ Responsive to communication(s) filed on 4-12-01, 3-26-01.
- ☒ This action is **FINAL**.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) 1, 2, 4, 6-23 is/are pending in the application.
Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) 1, 2, 4, 6-23 is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
 - ☐ received in Application No. (Series Code/Serial Number) _____.
 - ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____
- ☐ Interview Summary, PTO-413
- ☐ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Other _____

Office Action Summary

Art Unit: 1102

Applicant's pre-amendment of April 17, 2001 had not been corresponded with the application files at the time of the April 24, 2001 Office action. Accordingly, that Office action is hereby withdrawn in favor of the following rejections.

Claims 1, 2, 4, 6-23 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The expression "boundary layer has an average sintered particle size....different from that of said solid electrolytic substrate layer and....different from that of said insulating substrate layer" (e.g. claim 1, last paragraph) does not appear to have basis in the original disclosure. The expression would include the scenario where the boundary layer has an average particle size smaller than that of the electrolyte layer or the insulating layer. Where is the support for this? In fact, the original disclosure does not appear to disclose anything concerning the relative average sintered particle size of the boundary layer and the insulating layer.

The expression "wherein the composition of said boundary layer is different from the composition of said insulating substrate layer" (e.g. claim 11) also does not appear to have basis in the original disclosure. Note for instance page 12, lines 1 and 14 of the specification, which sets forth alumina as the material for both the boundary layer and the insulating layer.

Art Unit: 1102

Claims 9, 17 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These two claims appear to recite the same subject matter.

Claims 1, 2, 4, 6-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mase et al '456 in view of Suzuki et al.

Mase '456 discloses an alumina layer 54 directly sandwiched by an insulating layer 50 and an electrolyte layer 28, an alumina layer 34 directly sandwiched by electrolyte layers 28 and 8, and an alumina layer 20 directly sandwiched by electrolyte layers 8 and 10. The alumina layers are porous for the purpose of minimizing stress due to difference in coefficients of thermal expansion. Thus, the alumina layers correspond to applicant's "boundary layer". See col. 6, line 50 to col. 8, line 38. Applicant's claims differ by calling for the boundary layer to have an average sintered particle size larger than or different from those of the electrolyte layer and the insulating layer.

Suzuki discloses forming a more porous layer by starting with larger particles than a neighboring layer. See col. 2, lines 38-49. It would have been obvious for Mase to use larger particles in the boundary layer in order to obtain a more porous layer in view of Suzuki, since the adoption of known features from analogous prior art in the absence of unexpected result is within the skill of the art. Also, this would make it unnecessary to resort to subsequent treatment for effecting the desired high porosity in the boundary layer.

Art Unit: 1102

For applicant's arguments and the examiner's responses, please refer to the discussion on pages 3-5 of the April 24, 2001 Office action.

This is a CPA of applicant's earlier Application of the same serial number. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

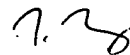
A new shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

The examiner can be reached at 703-308-3329. His supervisor Jill Warden can be reached at 703-308-4037. Any general inquiry should be directed to the receptionist at 703-308-0661. A fax number for TC 1700 is 703-872-9310.

Application/Control Number: 09/098,730

Page 5

Art Unit: 1102



Ta Tung

Primary Examiner

Art Unit 1743